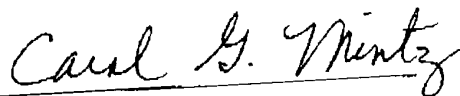


These amendments are submitted in an effort to clarify what is being claimed and to facilitate examination of this application. Applicant believes that no fee is due as a result of filing this Preliminary Amendment. If any fee is required, please charge such fee to Conley, Rose & Tayon, P.C. Deposit Account No. 03-2769/1856-00301CGM.

Respectfully submitted,



Carol G. Mintz  
PTO Reg. No. 38,561  
CONLEY, ROSE & TAYON  
P.O. Box 3267  
Houston, TX 77253-3267  
(713) 238-8000 (Phone)  
(713) 238-8008 (Fax)

## APPENDIX

## MARKED-UP VERSION OF THE AMENDMENTS

*In the Specification:*

*On page 4, please replace the second paragraph (lines 5-9) with the following paragraph:*

The process most commonly used to recover elemental sulfur from  $H_2S$  gas is the modified Claus sulfur recovery process. The conventional Claus process is well known in the art, and is also described in U.S. Pat. App. No. \_\_\_\_\_, 09/624,715, filed concurrently herewith, entitled "*Process for Recovery of Sulfur From  $H_2S$  Using Short Contact Time Partial Oxidation*", the disclosure of which is incorporated herein by reference.

*On page 8, please replace the second paragraph (lines 11-20) with the following paragraph:*

Typically, the catalyst structure is heated as a result of the exothermic chemical reactions occurring at its surface; however, it can additionally or alternatively be heated by external means, such as electrical resistance, magnetic induction, RF, etc. Heating by external means can allow for increases in the rate at which feed gas can be passed through the catalyst structure while still obtaining desirable reaction products. In many cases it is helpful to heat the catalytic device 24 with external means at least at the start of the process, so as to initiate the exothermic reactions on the catalyst structure. This initial heating can be accomplished in any suitable manner including electrical resistance, magnetic induction, RF, or the like. Once the system is running, it is preferably ~~is-run~~ adiabatically or nearly adiabatically (i.e., without loss of heat), so as to reduce the formation of carbon (e.g., coke) on the surface of the gauze catalyst.

*On page 10, please replace the second and third paragraphs (lines 8-19) with the following:*

Accordingly, and referring now to Figure 2, the present system preferably includes the synthesis gas reactor 10, firetube boiler 40, a condenser 50, heater 55, a tailgas cleanup units 60, a cooler 58, and a quench tower 80. The cooled, partially oxidized gases flow from boiler 40 into condenser 50, where they are cooled further until the dew point of the elemental sulfur is reached. This allows for the removal of elemental sulfur, as desired, from the process. Once the bulk of the elemental sulfur is removed, the partially oxidized gases are reheated in heater 55 and passed through a tailgas converter unit 60. Each tailgas converter unit 60 includes at least a sulfur absorbing material 56 in contact with the fluid. More specifically, in each converter unit 60, the hot gas stream is passed over a bed of zinc or iron oxide. In this bed, any elemental sulfur is converted to metal sulfide and retained in the bed.

The effluent from the sulfur absorber is then preferably cooled sufficiently in cooler 58 and quench tower 80 to condense the bulk of any remaining water from the gas stream.

*In the Claims:*

17. (Amended) The ~~method-system~~ according to claim 8 wherein the catalyst is selected from the group consisting of: platinum, rhodium, iridium, nickel, palladium, iron, cobalt, rhenium, rubidium, Pd-La<sub>2</sub>O<sub>3</sub>, Pt/ZrO<sub>2</sub>, Pt/Al<sub>2</sub>O<sub>3</sub> and combinations thereof.

MARKED-UP VERSION OF AMENDMENT

2/2

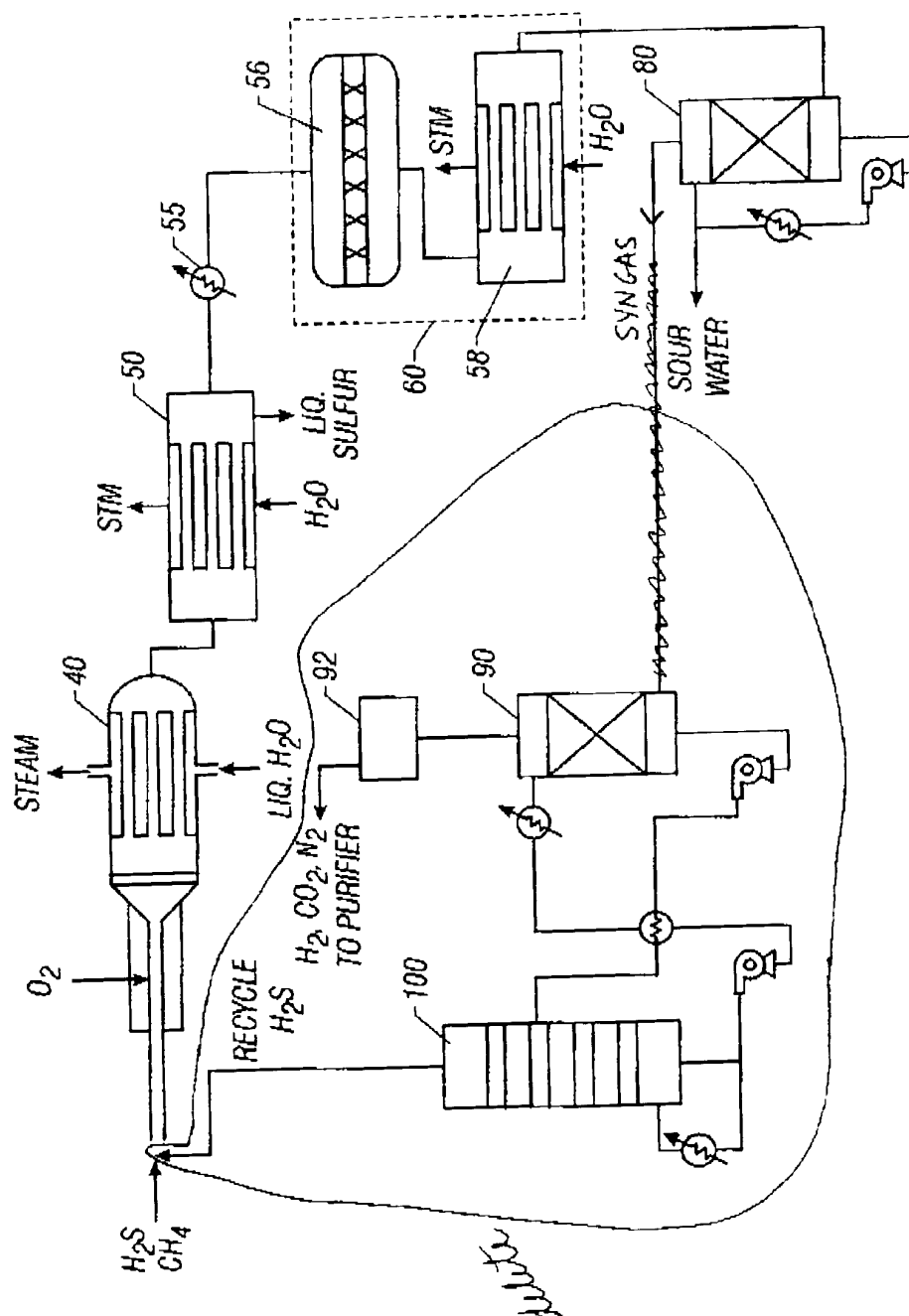


FIG. 2